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TITLE: Initial Randomized Controlled Trial of Acceptance and Commitment Therapy (ACT) for Distress and Impairment in OEF/OIF Veterans

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14. ABSTRACT The primary objective of this multi-site randomized controlled trial is to determine if receiving ACT, as compared to a control psychotherapy, is associated with reduced distress at the end of treatment. We will also examine its impact on functioning and acceptability as well as the extent to which gains are maintained after treatment. We will gather preliminary information about the impact of ACT on symptoms specific to PTSD, depression and PCS to inform future studies. In addition, we will gather information about the acceptability of and response to ACT in active duty service people as compared to those receiving care from the VA. Although the project is separately funded and administered, it is being conducted within the structure of the DoD-funded PTSD/TBI Clinical Consortium (INTRuST Consortium).					
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Table of Contents

	<u>Page</u>
1. Introduction	4
2. Keywords	4
3. Overall Project Summary	4
4. Key Research Accomplishments	7
5. Conclusion	7
6. Publications, Abstracts, and Presentations	8
7. Inventions, Patents and Licenses	8
8. Reportable Outcomes	8
9. Other Achievements	9
10. References	9
11. Appendices	9

1. INTRODUCTION:

Combat leads to “psychological injury,” including posttraumatic stress disorder (PTSD) and other anxiety disorders and depression, in at least a substantial minority of combatants (Hoge et al., 2004). In addition, many combatants in Iraq and Afghanistan are exposed to blasts or blows to the head that may lead to head injury, which can be followed by postconcussive symptoms (PCS; McAllister & Arciniegas, 2002). There is a strong need for treatment of the complex array of problems that follow combat, specifically for non-pharmacologic treatments as these are preferred by many veterans and military personnel. Current approaches are not effective and/or acceptable for all affected individuals, so finding new ways to deal with the sequelae of deployment is important. Acceptance and Commitment Therapy (ACT) is a psychotherapeutic approach that holds promise for this group. ACT is not tied to any particular symptom constellation, so it can be applied to a variety of presenting concerns. It has good face validity and conveys a compelling message, asking individuals to move forward in accordance with one’s values regardless of limitations, and ACT offers an alternative for people who refuse exposure-based approaches. Because of the enthusiasm for the approach, ACT is being widely disseminated – but without evidence for its effectiveness for military trauma. There is evidence of its effectiveness for emotional distress in general (Forman et al., 2007) and for depression in particular (Zettle & Hayes, 1986; Zettle & Rains, 1989) but not in military samples or for deployment-related distress.

The primary objective of this multi-site randomized controlled trial is to determine if receiving ACT, as compared to a control psychotherapy, is associated with reduced distress at the end of treatment. We will also examine its impact on functioning and acceptability as well as the extent to which gains are maintained after treatment. We will gather preliminary information about the impact of ACT on symptoms specific to PTSD, depression and PCS to inform future studies. In addition, we will gather information about the acceptability of and response to ACT in active duty service people as compared to those receiving care from the VA. Although the project is separately funded and administered, it is being conducted within the structure of the DoD-funded PTSD/TBI Clinical Consortium (INTRuST Consortium).

- 2. KEYWORDS:** Psychotherapy, ACT, cognitive-behavioral therapy, PTSD, TBI, Anxiety, Depression

3. OVERALL PROJECT SUMMARY:

A total of 160 veterans and 20 active-duty soldiers were recruited at 5 VA sites and at WRNMMC (see below for recruitment figures and tables). Participants were randomized into two treatment arms receiving either a transdiagnostic therapy (ACT) or a control treatment group which utilized Present Centered Therapy (except at WRNMMC where all participants were enrolled in the ACT treatment group). Both groups received a total of 12 sessions over a period of 6-10 weeks and were assessed at screening before treatment, mid treatment and at the end of treatment.

Over the course of the study, the WRNMMC site successfully enrolled and completed recruitment goals in accordance with the revised projections. These projections

necessitated revision due to changes in the hospital population and delays in initial IRB approval resulting from the BRAC process that was underway during the study start date. All data collected at the WRNMMC site was securely transmitted to the lead site following study protocols and data analysis is currently underway. Data and research documentation were audited for safety and protocol violations on-site upon completion of the first year of study operations and again upon final transmission of local site data. There were no significant adverse events or protocol violations at the WRNMMC site as monitored by the local IRB and the external Data Safety and Monitoring Board appointed by the lead site.

Because data analysis is still ongoing, we are unable to provide any definitive results at this time. However there have been a number of notable achievements that have resulted from the successful completion of this study. As one of the first randomized control trials to utilize a transdiagnostic psychotherapy we will be able to provide important data demonstrating the effectiveness of treatments intended for patients with multiple diagnoses versus single-disorder therapies. As the first trial of which we are aware to include veterans of OIF/OEF/OND we can also provide a critical early assessment of this population's mental health profile while also evaluating the efficacy of treatments for some of the most common disorders to effect these veterans. Finally, as one of the most comprehensive multi-site psychotherapy clinical trials to be conducted in a military population we have been able to provide a template for future research in this field documenting the challenges are logistical strategies necessary to successfully achieve study goals.

Because ACT is a commonly and readily trained treatment and is in fact already in use in numerous clinical settings despite a lack of efficacy data, dissemination of research findings will be quickly applied to practical use. The achievements detailed above along with early results have already been shared through presentations at professional conferences as well as a peer-reviewed journal article. As data analysis is completed, those results will continue to be disseminated through further presentations and publications.

The following is the list of study objectives from the approved SOW and current progress at achieving each:

Objective 1: To determine if receiving ACT, as compared to PCT, is associated with reduced distress as measured by the BSI-18 General Symptom Index (GSI) at the end of treatment.

- Data analysis is ongoing at this time.

Objective 2: To determine if receiving ACT, as compared to PCT, is associated with reduced anger and functional impairment at the end of treatment.

- Data analysis is ongoing at this time.

Objective 3: To compare the acceptability of ACT and PCT for OEF/OIF/OND veterans.

- Data analysis is ongoing at this time.

Objective 4: To describe to what extent treatment gains are sustained after treatment with ACT.

- Follow-up data collection is still in progress at some study sites.

Objective 5: To assess whether or not ACT as compared to PCT is associated with decreased disorder-specific symptoms in subgroups with PTSD, Major Depression and post-concussive symptoms.

- Data analysis is ongoing at this time.

Objective 6: To gather preliminary information regarding the acceptability of and response to ACT in active duty service people as compared to those receiving care from the VA.

- Preliminary data suggests ACT is an acceptable treatment option for both veteran and active-duty service members.

Objective 7: To compare the impact of the interventions on posttraumatic growth, hope, guilt and insomnia and to evaluate potential mediators of change.

- Follow-up data collection is still in progress at some study sites.

Table 1: Revised Projected and Actual Recruitment by Site (WRNMMC)

	Enrollment per Quarter							% complete
	Year 1			Year 2				
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
WRNNMC projected		5	5	5	7	4		
WRNNMC actual		1	3	4	8	4		100%

Figure 1: Actual vs Projected Randomization: Study-wide

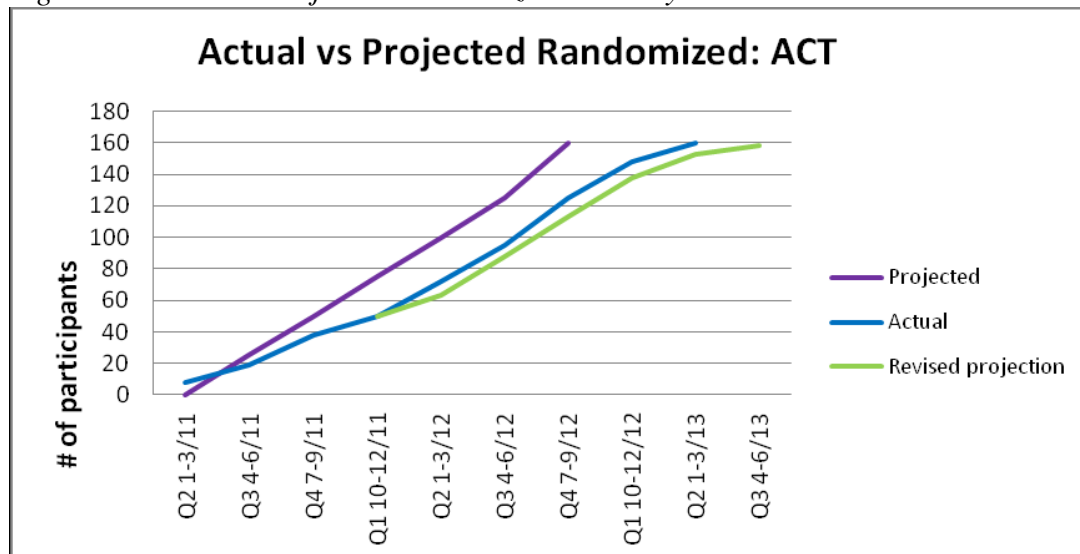


Table 2: Recruitment flow by site

Accrual Through January 31, 2013							
	Total	Cincinnati	Durham	Puget Sound	San Diego	Togus	WRNMMC
Referred	370	22	63	68	117	71	29
No show	24	3	3	7	4	7	0
Refused	30	0	2	4	7	16	1
Unreachable	76	8	29	9	15	10	4
Pending	0	0	0	0	0	0	2
Other	42	0	13	4	22	1	2
Screened	202	11	20	44	69	37	21
Ineligible	20	0	3	4	10	2	1
Not OEF/OIF/OND	0	0	0	0	0	0	0
No disorder meeting criteria	1	0	1	0	0	0	0
Cognitive impairment	4	0	0	2	1	1	0
Exclusionary diagnosis	3	0	0	1	2	0	0
Substance dependent	7	0	1	0	5	1	0
Current psychotherapy	1	0	1	0	0	0	0
Medication not stable	3	0	0	1	2	0	0
Other	1	0	0	0	0	0	1
Eligible	182	11	17	40	59	35	20
Did not enroll	2	0	0	2	0	0	0
Enrolled*	180	11	17	38	59	35	20
Active	118	10	8	24	34	24	19
Completed	26	0	7	1	13	5	0
Exited	36	1	2	13	12	6	2
*160 randomized							

4. KEY RESEARCH ACCOMPLISHMENTS:

- Demonstrated that ACT treatment can be successfully delivered to a combat-exposed military population in an outpatient setting.
- Collected multi-site randomized clinical trial data that can be used to evaluate the effectiveness of transdiagnostic treatments (treatments that can be applied to patients with more than one diagnosis) in a combat-exposed military population.
- As one of the first successfully completed multi-site RCT psychotherapy clinical trials, published article that documents challenges of this design and strategies to execute future studies of this type.

5. CONCLUSION:

Even though data analysis is still ongoing, this study has already made a number of significant contributions to military medicine. This study is the first RCT psychotherapy clinical trials to study the efficacy of a transdiagnostic treatment (applicable to patients with multiple diagnoses) to be conducted. It is also the first clinical trial to include veterans of OIF/OEF/OND. A transdiagnostic approach is especially critical to a combat-exposed population because those patients often present with multiple diagnoses and many currently evaluated treatments are disorder specific.

Because this study uses very broad inclusion criteria with few exclusionary criteria we have been able to study the efficacy of ACT in as realistic a population as possible. Combined with the multi-site nature of the study, this will enable a very broad look into

the effectiveness of a treatment that has already seen widespread dissemination. This means that any positive results can be quickly implemented in the medical community with a high degree of confidence that the results seen in the study population will apply to a broad population.

It is our hope that this study will set a template for future multi-site clinical psychotherapy research both within the military and broader mental health community. Studies such as this demonstrate the importance of transdiagnostic treatments, particularly for populations and disorders with high rates of comorbidity. Finally, as the first RCT psychotherapy clinical trial to study veterans of the Iraq and Afghanistan wars it is our hope that this data will serve as an early indicator of effective mental health treatments for this population.

6. PUBLICATIONS, ABSTRACTS, AND PRESENTATIONS:

Publication:

Lang AJ, Schnurr PP, Jain S, Raman R, Walser R, Bolton E, Chabot A, Benedek D: “Evaluating transdiagnostic treatment for distress and impairment in veterans: A multi-site randomized controlled trial of Acceptance and Commitment Therapy” *Contemporary Clinical Trials*, 2012, 33(1), pp. 116 - 123.

Presentations:

“A Randomized Trial of Acceptance and Commitment Therapy for Distress and Impairment in OEF/OIF/OND Veterans with PTSD,” Paula P. Schnurr^{1,2}, Ariel J. Lang, Rema Raman, Sonia Jain, Robyn Walser, Elisa Bolton, David Benedek, Sonya Norman, Patrick Sylvers, Laura Flashman, Jennifer Strauss, & Kathleen Chard, Annual Meeting of the International Society for Traumatic Stress Studies, Philadelphia, PA, October, 2013

“A randomized trial of Acceptance and Commitment Therapy for distress and impairment in OEF/OIF/OND Veterans.” In (A. J. Lang, Chair), *Approaching Care from a Transdiagnostic Perspective* Lang, A. J., Schnurr, P.P., Batten, S. V., Raman, R., Jain, S., Walser, R., Bolton, E., Benedek, D., Norman, S., Sylvers, P., Flashman, L., Strauss, J., & Chard, K. (2013, November). Symposium at the annual meeting of the Association for Behavioral and Cognitive Therapies, Nashville, TN.

7. INVENTIONS, PATENTS AND LICENSES: Nothing to report

8. REPORTABLE OUTCOMES:

- As one of the first multi-site RCT psychotherapy clinical trials and the first to include veterans of OIF/OEF/OND we have published an article detailing the execution and challenges of the study design as a template for future research in this area/population.

-Will be able to provide efficacy evidence for transdiagnostic treatments such as Acceptance and Commitment Therapy compared to disorder-specific treatments.

9. OTHER ACHIEVEMENTS: Nothing to report

10. REFERENCES:

- Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D., & Geller, P. A. (2007). A randomized controlled trial of Acceptance and Commitment Therapy and cognitive therapy for anxiety and depression. *Behavior Modification, 31*, 772-799.
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *The New England Journal of Medicine, 351*, 13-22.
- McAllister, T. W. & Arciniegas, D. (2002). Evaluation and treatment of postconcussive symptoms. *NeuroRehabilitation, 17*, 265–283.
- Zettle, R. D., & Hayes, S. C. (1986). Dysfunctional control by client verbal behavior: The context of reason giving. *The Analysis of Verbal Behavior, 4*, 30–38.
- Zettle, R. D., & Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology, 45*(3), 436–445.

11. APPENDICES: N/A